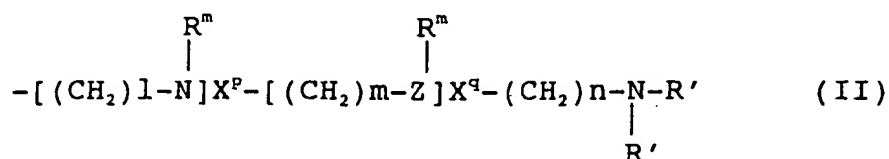
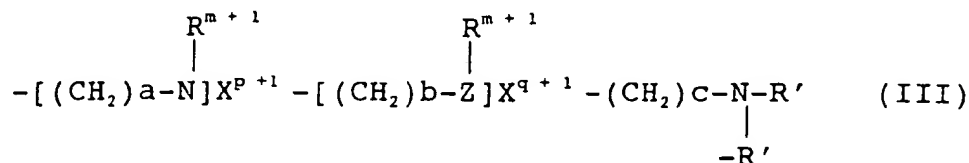


wherein the base skeleton may contain an amide bond; Z represents a carbon or nitrogen atom; R' represents hydrogen, a cholesterol residue, a saturated or unsaturated alkyl group, a saturated or unsaturated acyl group, a saturated or unsaturated acyloxycarbonyl group, or a phospholipid residue; two R's binding to the same nitrogen atom can be identical or different; a side chain R₁ is hydrogen, a cholesterol residue, saturated or unsaturated alkyl group, saturated or unsaturated acyl group, or saturated or unsaturated acyloxycarbonyl group, phospholipid residue, or below formula (II); and p, q, r, Xⁿ, X^m represent arbitrary natural numbers:



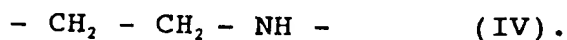
wherein the base skeleton and the side chain R^m may contain an amide bond; Z represents a carbon or nitrogen atom; R' represents hydrogen, a cholesterol residue, a saturated or unsaturated alkyl group, a saturated or unsaturated acyl group, a saturated or unsaturated acyloxycarbonyl group, or a phospholipid residue; two R's binding to the same nitrogen atom can be identical or different; R^m is hydrogen, a cholesterol residue, a saturated or unsaturated alkyl group, a saturated or unsaturated acyl group, or a saturated or unsaturated acyloxycarbonyl group, a phospholipid residue, or below formula (III); and l, m, n, X^p, X^q represent arbitrary natural numbers:



wherein the base skeleton and the base skeleton of the side chain R^{m+1} may contain an amide bond; Z represents a carbon or nitrogen atom; R' represents hydrogen, a cholesterol residue, a saturated

or unsaturated alkyl group, a saturated or unsaturated acyl group, a saturated or unsaturated acyloxycarbonyl group, or a phospholipid residue; two R's binding to the same nitrogen atom can be identical or different; and a, b, c, X^{p+1} , X^{q+1} represent arbitrary natural numbers.

29. The composition of Claim 26, comprising the repeating structure of formula (IV) in the base skeleton:



30. The compositions of Claim 29, wherein two to five molecules of tetraethylenepentamine are linked in a linear manner.

31. The composition of Claim 30, wherein any two or more of side chains R' , R^1 , R^m , or R^{m+1} comprise a group selected from the group consisting of ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl, hexadecyl, heptadecyl, octadecyl, nonadecyl, and eicocyl groups.

32. The composition of Claim 30, wherein any two or more of side chains R' , R^1 , R^m , or R^{m+1} comprise a group selected from the group consisting of a butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl, hexadecyl, heptadecyl, and octadecyl groups.

33. The composition of Claim 29, wherein the structure containing the formula (IV) are linked in a branched manner.

34. The composition of Claim 33, wherein any two or more of side chains R' , R^1 , R^m , or R^{m+1} comprise a group selected from the group consisting of ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl, hexadecyl, heptadecyl, octadecyl, nonadecyl, and eicocyl groups.

35. The composition of Claim 33, wherein any two or more of side chains R' , R^1 , R^m , or R^{m+1} comprise a group selected from the group consisting of butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl, hexadecyl, heptadecyl, and octadecyl groups.

36. The composition of Claim 26, wherein the base skeleton contains a spermine structure.
37. The composition of Claim 36, wherein two to five molecules of spermines are linked in a linear manner.
38. The composition of Claim 36, wherein any two or more of side chains R' , R^1 , R^m , or R^{m+1} comprise a group selected from the group consisting of ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl, hexadecyl, heptadecyl, octadecyl, nonadecyl, and eicocyl groups.
39. The composition of Claim 36, wherein any two or more of side chains R' , R^1 , R^m , or R^{m+1} comprise a group selected from the group consisting of a butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl, hexadecyl, heptadecyl, and octadecyl groups.
40. The composition of Claim 36, wherein the spermine structure is linked in a branched manner.
41. The composition of Claim 39, wherein any two or more of side chains R' , R^1 , R^m , or R^{m+1} comprise a group selected from the group consisting of ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl, hexadecyl, heptadecyl, octadecyl, nonadecyl, and eicocyl groups.
42. The composition of Claim 39, wherein any two or more of side chains R' , R^1 , R^m , or R^{m+1} comprise a group selected from the group consisting of butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl, hexadecyl, heptadecyl, and octadecyl groups.
43. The composition of Claim 26, further comprising phospholipid.
44. The composition of Claim 43, wherein the phospholipid is neutral or basic phospholipid.
45. The composition of Claim 44, wherein the phospholipid comprises phosphatidylethanolamine, or phosphatidylcholine skeleton.

46. The composition of Claim 45, wherein the phospholipid is dioleoylphosphatidylethanolamine, or phosphatidylcholine.
47. A complex comprising a physiologically active substance comprising a negative charge and a composition of Claim 26.
48. The complex of Claim 47, wherein the physiologically active substance comprising a negative charge is a nucleic acid or its derivative.
49. A method for introducing a physiologically active substance comprising a negative charge to cells, said method comprising a step of contacting the complex of Claim 47 with cells.
50. A kit for preparing the composition of Claim 44, comprising phospholipid and a polyalkylenimine having two or more hydrophobic groups per molecule or its salt.

REMARKS

The present amendment conforms the claims of this application to U.S. practice.

If there are any charges, or any credits, please apply them to Deposit Account

No. 03-2095.

Respectfully submitted,

Date: August 28, 2000

Susan M. Michaud
Paul T. Clark Susan M. Michaud
Reg. No. 30,162 Reg. No. 42,885

Clark & Elbing LLP
176 Federal Street
Boston, MA 02110
Telephone: 617-428-0200
Facsimile: 617-428-7045